

11054 U.S. PTO  
04/06/01

Practitioner's Docket No.

0293AD - 029641

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: April 6, 2001

Assistant Commissioner for Patents  
Washington, D.C. 20231

## REISSUE APPLICATION TRANSMITTAL

Transmitted herewith is the application for reissue of U.S.

☒ Utility Patent ☐ Plant Patent ☐ Design Patent

No. 5,891,021 issued on April 6, 1999

Inventor(s): Dillon et al

Title: Partially Rigid - Partially Flexible Electro-optical Sensor For Fingerprint Transillumination

Enclosed are the following:

## 1. Specification, claim(s) and drawing(s) (37 C.F.R. § 1.173)

- (a) ☒ 5 page(s) of specification  
☒ 3 page(s) of claims  
☒ 1 page(s) of abstract

NOTE: This must include the entire specification and claims of the patent, with the matter to be omitted by reissue enclosed in square brackets. Any additions made by the reissue must be underlined, so that the old and new specifications and claims may be readily compared. Claims should not be renumbered. The numbering of claims added by reissue should follow the number of the highest numbered patent claim. No new matter shall be introduced into the specification. (37 C.F.R. § 1.173).

## CERTIFICATION UNDER 37 C.F.R. § 1.10\*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this Reissue Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date April 6, 2001 in an envelope as "Express Mail Post Office to Addressee," mailing Label Number ET162571155US addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Rebecca A. Gray  
(type or print name of person mailing paper)

Signature of person mailing paper

**WARNING:** Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

**\*WARNING:** Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Reissue Application Transmittal [17-1]—page 1 of 6)

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(b) ☐ \_\_\_\_\_ sheet(s) of drawing (drawings amended)

☐ Formal

☐ Informal

NOTE: "Amendments which can be made in a reissue drawing, that is, changes from the drawing of the patent, are restricted." 37 C.F.R. § 1.174(b).

☒ No changes in the drawings, upon which the original patent was issued, are to be made. Therefore, in accordance with 37 C.F.R. § 1.174(a), please find attached, in the size required for original drawings:

☐ a copy of the printed drawings of the patent.

☒ a photoprint of the original drawings.

☐ A letter requesting transfer of the drawings from the original patent file to this reissue application is attached.

2. Declaration and power of attorney

☒ Two <sup>unsigned</sup> pages of declaration and power of attorney

3. Preliminary amendment

(check, if applicable)

☒ Attached

4. Offer to surrender the original letters patent in accordance with 37 C.F.R. § 1.178 is attached.

☐ Offer to surrender is by the inventor

☒ along with assent of assignee.

☐ Offer to surrender is by the assignee of the entire interest (and the reissue application does not seek to enlarge the claims of the original patent).

5. Letters patent

☒ Original letters patent ~~are attached~~. *were returned to the patent office on Apr. 14, 1999, see attached*

☐ Declaration that original letters patent lost or inaccessible is attached.

☒ A copy of the original printed patent is attached.

NOTE: "The application may be accepted for examination in the absence of the original patent or the declaration but one or the other must be supplied before the case is allowed." 37 C.F.R. § 1.178.

NOTE: "Where the original patent grant is not submitted with the reissue application as filed, patentee should include a copy of the printed original patent. Presence of a copy of the original patent is useful for the calculation of the reissue filing fee and for the verification of other identifying data." M.P.E.P., § 1416, 7th ed.

NOTE: "If a reissue be refused, the original patent will be returned to applicant upon his request." 37 C.F.R. § 1.178.

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**6. Petition to proceed without assignee's assent**

☐ Attached hereto is a "PETITION TO PROCEED WITH REISSUE APPLICATION WITHOUT ASSIGNEE'S ASSENT".

A. ☐ The fee payment is authorized in the attached:

☐ "REISSUE APPLICATION TRANSMITTAL" Form

☐ "COMPLETION OF FILING REQUIREMENTS — REISSUE APPLICATION" Form.

B. ☐ Payment is authorized below.

**7. Information Disclosure Statement**

☐ Attached

☐ Copies of the IDS citation(s) is/are attached.

**8. Priority—35 U.S.C. § 119**

☐ Priority of application Application No. 0 / \_\_\_\_\_, filed on \_\_\_\_\_, in \_\_\_\_\_ is claimed under 35 U.S.C. § 119.  
Country

☐ The certified copy has been filed in prior application Application No. 0 / \_\_\_\_\_ filed on \_\_\_\_\_

**9. Basic Filing Fee Calculation (37 C.F.R. § 1.16(h), (i) and (j))**

CLAIMS AS FILED			
Number Filed	Number Extra	Rate	Basic Fee (37 C.F.R. 1.16(h))
18			\$690.00
Total Claims (37 C.F.R. § 1.16(j))	18	— 20 (and also in excess of total claims in patent)	X \$18.00
Independent Claims 37 C.F.R. § 1.16(i)	2	— (number of independent claims in patent)	X \$78.00
Filing fee Calculation			\$ 690

NOTE: Multiple dependent claims are treated as ordinary claims for fee purposes. 37 C.F.R. § 1.16(j).

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"Patent" Fee

**10. Small Entity Status (if applicable)**

**NOTE:** A new statement is required for the reissue, even if one has been filed in the original patent. 37 C.F.R. § 1.27(a).

**WARNING:** "Small entity status must not be established when the person or persons signing the . . . statement can unequivocally make the required self-certification." M.P.E.P. § 509.03, 6th ed., rev. 2, July 1996 (emphasis added).

- ☐ A statement that this filing is by a small entity is  
☐ attached.

Filing Fee Calculation (50% of above) \$ 345.00

**NOTE:** If a statement is filed within 2 months of the date of timely payment of a fee, then the excess fee paid will be refunded on request. 37 C.F.R. § 1.28(a). Effective April 1, 1984.

**11. Additional Fee Payments**

- ☐ Payment is being made for "PETITION TO PROCEED WITH REISSUE APPLICATION WITHOUT ASSIGNEE"  
(37 C.F.R. § 1.17(h)) . . . . . \$130.00

**12. Total Fees Due**

Filing Fee	\$ <u>345.00</u>
Petition fee	\$ _____
<b>Total Fees Due</b>	\$ <u>345.00</u>

**13. Method Of Payment of Fees**

- ☒ Enclosed is a check in the amount of \$ 345.00.  
☐ Charge Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_  
A duplicate of this request is attached.

**NOTE:** Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 C.F.R. § 1.22(b).

(Reissue Application Transmittal [17-1]—page 4 of 6)

**14. Authorization To Charge Additional Fees**

**WARNING:** If no fees are to be paid on filing, the following items should not be completed.

**WARNING:** Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 50-0259 :

☒ 37 C.F.R. § 1.16(a), (f) or (g) (filing fees)

☒ 37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

**NOTE:** Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

☒ 37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

☒ 37 C.F.R. § 1.17(a)(1)–(5) (extension fees pursuant to § 1.136(a)).

☒ 37 C.F.R. § 1.17 (application processing fees)

**NOTE:** "A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

**NOTE:** "Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

**NOTE:** Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

**NOTE:** See 37 C.F.R. § 1.28.

**15. ☐ Additional Enclosures**

FOOTNOTED

Reg. No.: 29,634

Tel. No.: (512) 343-6116

Customer No.:



SIGNATURE OF PRACTITIONER

Andrew J. Dillon

(type or print name of practitioner)

7600 B N. Capital St Suite 350

P.O. Address

Austin TX 76731

(Reissue Application Transmittal [17-1]—page 6 of 6)

**CERTIFICATE OF TITLE UNDER 37 CFR 3.73(b)**Applicant: DILLON ET AL.Patent No.: 5,891,021 Issued: April 6, 1999For: PARTIALLY RIGID-PARTIALLY FLEXIBLE ELECTRO-OPTICAL SENSOR FOR FINGERTIP  
TRANSILLUMINATIONPERDUE HOLDINGS INC., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership,  
university, government agency, etc.)

certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office atReel 9234, Frame 0400, or which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: April 6, 2001(Signature) Reg. No. 29,634Andrew J. Dillon

Typed or printed name

Counsel

Title

F03040 "e" 03050

Received in the U.S.P.T.O.

In re Application of:

**DILLON ET AL.**

Partially Rigid-Partially Flexible Electro-  
Optical Sensor for Fingertip Transillumination

Serial No. 09/089,523; Filed 6/3/98

ENCLOSED-HEREWITH:

1. Request for Corrected Patent Document
2. Amendment, Petition...in Declaration (copy)

**EPIC MEDICAL EQUIPMENT SERVICES, INC.**

Our File No. 0293AD-29641

Mailed: April 14, 1999

AJD/vf



Received in the U.S.P.T.O.

In re Application of:

**DILLON ET AL.**

Partially Rigid-Partially Flexible Electro-  
Optical Sensor for Fingertip Transillumination

Serial No. 09/089,523; Filed 6/3/98

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2. Amendment, Petition...in Declaration (copy)

**EPIC MEDICAL EQUIPMENT SERVICES, INC.**

Our File No. 0293AD-29641

Mailed: April 14, 1999

AJD/vf

CERTIFICATE

APR 29 1999

IN CORRECTION

RECEIVED  
Publishing Div.

APR 19 1999

15



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U. S. Patent No. 5,891,021      §  
   §  
Granted: APR. 6, 1999                   §  
   §  
For: PARTIALLY RIGID-PARTIALLY      §  
FLEXIBLE ELECTRO-OPTICAL           §  
SENSOR FOR FINGERTIP               §  
TRANSILLUMINATION                   §

Docket No. 29641  
App. No.: 89,523

REQUEST FOR CORRECTED PATENT DOCUMENT

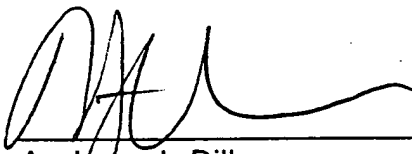
Assistant Commissioner for Patents  
Washington, D.C. 20231

ATTN: Publishing Division

Sir:

Applicant submits the original Patent Grant and respectfully requests a correction be made to the third inventor's name: **Todd Johnson Daniel**, as previously submitted by Petition to the USPTO and attached hereto.

Respectfully submitted,



Andrew J. Dillon  
*Registration No. 29,634*  
FELSMAN, BRADLEY, VADEN, GUNTER & DILLON, LLP  
Suite 350, Lakewood on the Park  
7600B No. Capital of Texas Highway  
Austin, Texas 78731  
512-343-6116  
ATTORNEY FOR APPLICANT

CERTIFICATE OF MAILING  
- 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as First-Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D. C. 20231, on April 14, 1999.

  
Signature

02-13AD-

291541

4/12

# The United States of America



## The Commissioner of Patents and Trademarks

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

*Therefore, this*

### United States Patent

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.*

*If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.*

*If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.*

*T. Todd Tschumi*

Acting Commissioner of Patents and Trademarks

*Thomas E. Hawkins Jr.*

Attest

11000 U.S. PTO  
09/828343  
04/06/01



US005891021A

**United States Patent** [19]

Dillon et al.

[11] Patent Number: **5,891,021**[45] Date of Patent: **Apr. 6, 1999****[54] PARTIALLY RIGID-PARTIALLY FLEXIBLE  
ELECTRO-OPTICAL SENSOR FOR  
FINGERTIP TRANSILLUMINATION****[75] Inventors:** Andrew Joseph Dillon, Austin; Jeffrey  
Albert Secunda, Dallas; Todd  
Johnson, Frisco, all of Tex.**[73] Assignee:** Perdue Holdings, Inc., Dallas, Tex.**[21] Appl. No.:** 89,523**[22] Filed:** Jun. 3, 1998**[51] Int. CL<sup>6</sup>** ..... A61B 5/00**[52] U.S. Cl.** ..... 600/310; 600/344**[58] Field of Search** ..... 600/310, 322,  
600/323, 340, 344, 473, 476**[56] References Cited****U.S. PATENT DOCUMENTS**

3,167,658	1/1965	Richter	250/239
3,599,629	8/1971	Gordy	128/2.06
3,602,213	8/1971	Howell et al.	128/2.05
3,769,974	11/1973	Smart et al.	128/2.05
3,807,388	4/1974	Orr et al.	128/205
4,013,067	3/1977	Kresse et al.	128/2.05
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4,350,165	9/1982	Striese	128/640
4,370,984	2/1983	Cartmell	128/640
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4,406,289	9/1983	Wesseling et al.	128/670
4,685,464	8/1987	Goldberger et al.	128/633
4,830,014	5/1989	Goodman et al.	
4,865,038	9/1989	Rich et al.	128/633
5,217,012	6/1993	Young et al.	128/633
5,249,576	10/1993	Goldberger et al.	128/632
5,387,122	2/1995	Goldberger et al.	439/353
5,429,129	7/1995	Lovejoy et al.	128/633
5,676,139	10/1997	Goldberger et al.	128/633

*Primary Examiner*—Cary E. O'Connor*Assistant Examiner*—Eric F. Winakur*Attorney, Agent, or Firm*—Andrew J. Dillon**[57] ABSTRACT**

A sensor is provided for transillumination of a blood-profused portion of a human fingertip. The sensor includes an opaque, semi-cylindrical substantially rigid cradle member having a photosensor mounted to a concave surface thereof such that ambient light cannot penetrate the cradle member and induce erroneous readings. A flexible planar web-like support structure is attached at one end thereof to the cradle member and includes a light source mounted within the web thereof. A repositionable adhesive coating on the concave surface of the cradle member holds the fleshy portion of a human fingertip in conformance therewith, and when the flexible planar web-like support structure is wrapped around a fingertip within the cradle member, the light source overlies the photosensor for transillumination of the fingertip.

**18 Claims, 2 Drawing Sheets**